Autonomous Lifeguard

Student Project Funds Proposal

Abstract

In the past year, there have been a reported 63,000 individuals that have been rescued from drowning on US beaches. This year alone, 99 people have drowned with a good number of them occurring while a lifeguard was on duty. We are proposing an autonomous surface vehicle (ASV) to aid and assist drowning victims during the critical minutes before help can reach them.

This project is composed of two systems, a command center and autonomous vehicle, that will wirelessly communicate with each other. The command center will consist of a GPS-based scope mounted on a lifeguard post that will allow the user to obtain a coordinate location of a drowning victim. Once prompted, the command center communicates this waypoint to the autonomous vehicle stationed in the water. The vehicle will then navigate to the designated waypoint using an onboard GPS unit. Upon reaching this destination, the ASV will intelligently traverse the area until the drowning victim has grabbed onto the vehicle. The ASV will support the victim and allow them to rest while the lifeguard makes their way to the victim.

Narrative

Background

Objective

Procedure

Qualifications

Benefits